

progression group had more proteinuria, higher blood pressure, poorer renal function, lower serum albumin and lower hemoglobin. When cases were divided according to CKD stage, the results showed no significant difference of outcomes among patients in CKD1-3a stages ($P > 0.05$). Their five-year renal survival rate was more than 95%. But patients in CKD3b-4 stage had worse outcomes. The five-year renal survival rate of patients in CKD3b stage was 85.3%, while it was only 65.3% in CKD 4 stage.

Conclusion: Five-year renal survival rate of patients with primary IgAN was 92% in our hospital, and ten-year renal survival rate was 88%. Patients in CKD3b or CKD4 stage at biopsy may have a lower renal survival rate and a worse outcome. At the time of renal biopsy, patients with impaired renal function, mass proteinuria, hypertension, anemia and low serum albumin may have a greater risk of progressing to ESRD.

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Expression Profile and Clinical significance of Toll-like Receptor 9 in Peripheral Blood B Lymphocytes and Kidney Tissues from Patients with IgA Nephropathy

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Objective: Toll-like receptors (TLRs) are pattern associated receptors in innate immunity that may be involved in the recognition of self antigens and the production of pathogenic autoantibodies. The purpose of this study was to examine the expression and clinical significance of Toll-like Receptor 9 (TLR9) in peripheral blood B lymphocytes and kidney tissues from IgA nephropathy (IgAN) patients

Methods: We measured TLR9 expression in the peripheral blood B lymphocytes in 200 IgAN patients and 100 healthy controls. TLR9 expression in the peripheral blood B lymphocytes was measured by in Flow cytometry. TLR9 expression in the kidney tissues was detected by immunohistochemical staining. IPP6.0 software was used to calculate the number of glomerulus crescent, and SPSS 17.0 statistical software was used to perform the statistical analysis.

Results: Expression of TLR9 was increased in both peripheral blood B lymphocytes and kidney tissues from IgAN patients compared to the control groups. In addition, the expressions of renal tissue TLR9 were found to be significant negative correlated with urinary protein, and positive correlated with the number of glomerulus crescent and glomerular filtration rate.

Conclusion: Elevated TLR9 levels were associated with the severity of renal function injury in IgAN patients. These findings help to clarify some of the clinical observations in the management of IgAN, and may highlight future directions for research.

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Bedside ESRD Prediction Tool for IgA Nephropathy: A Multicenter Discovery and Validation Study

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Objective: Accurate estimation of the risk of end stage renal disease (ESRD) at the time of diagnosis of IgA nephropathy (IgAN) is critical for guiding case management, patient education, and timely planning of dialysis and transplantation. The aim of this study was to develop and validate a simple prediction tool for bedside risk estimation of end-stage renal failure (ESRD) in patients with IgAN.

Methods: A retrospective cohort study was performed. Biopsy-proven IgAN patients with estimated glomerular filtration rate value higher than 15 ml/min/1.73 m² at the time of renal biopsy were recruited. Clinical characteristics were collected during routine clinical practice. ESRD was defined by a need for renal replacement therapy (dialysis or renal transplantation). Cox regression was carried out to predict patient risk of ESRD and established a risk scoring system.

Results: We analyzed 1,586 primary IgAN cases across 2 major nephrology centers with a mean follow-up time of 44.5 months (range 12–246 months), followed by validation in an independent cohort of 1,092 additional patients across 5 major nephrology centers. In total, the progression data were analyzed for 2,678 patients, of which 212 (8%) reached ESRD during follow-up. We identified five baseline clinical variables with an independent effect on the risk of ESRD, including gender, age, eGFR, urine protein and hemoglobin. We propose a simple bedside prediction tool based on our model. In the validation cohort, this model was more accurate than a simpler model that included eGFR, serum albumin, hemoglobin and systolic blood pressure [integrated discrimination improvement, 9.4% (4.9%, 13.9%); c Statistic 0.92 vs 0.90; and net reclassification improvement 9.2% (-4.1%, 22.6%)].

Conclusion: Our prediction tool is simple, accurate, and readily applicable to clinical practice.

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Association of ABO Blood Group with Progression of IgA Nephropathy

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Objective: The aim of this study is to explore its association with progression of IgA nephropathy (IgAN).

Methods: Biopsy-proven primary IgAN patients with at least eGFR ≥ 15 ml/min/1.73 m² at the time of biopsy and follow-up time ≥ 1 year were retrospectively recruited. Clinical, histological and progression data were recorded. Renal tissue was semi-quantitative scored according to the Oxford scoring system. ABO blood group was determined by standard erythrocyte antiserum agglutination method. All patients were divided into B antigen group (type B and AB) and non-B antigen group (type A and O) based on their ABO types.

Results: Among the 919 IgAN patients recruited in this study, 252 patients were type A (27.4%), 273 were type B (29.7%), 93 were type AB (10.1%) and 301 were type O (32.8%). When renal biopsy was performed, patients in B antigen group had higher eGFR (81.28 vs. 72.47 ml/min/1.73 m²), lower systolic blood pressure (sbp) (125.26 vs. 128.77 mmHg) and uric acid (6.19 vs. 6.52 mg/dl) than patients in non-B antigen group. No significant difference was detected in histological lesions between these two groups. Totally, 124 patients (13.5%) progressed to end-stage renal disease (ESRD) after a median follow-up period of 57.46 months, including 42 (16.7%) type A, 23 (8.4%) type B, 3 (3.2%) type AB and 56 (18.6%) type O patients. Kaplan-Meier analysis showed that median ESRD-free survival time of patients in B antigen group was significantly longer than patients in non-B antigen group (159.05 \pm 4.94 months vs. 143.09 \pm 6.38 months, $p < 0.001$). Furthermore, patients in B antigen group were associated with a decreased risk of ESRD (HR = 0.51, 95% CI 0.31–0.83) after being adjusted by age, sex, clinical and historical indicators (SBP, eGFR, blood urea nitrogen, serum albumin, uric acid, serum triglycerides, hemoglobin, serum C3, urine protein and Oxford Classification T).

Conclusion: Our data suggest that B antigen had an independent protective effect against the progression of IgAN.